

ABSTRACT OF THE INVENTION

A method and apparatus for preventing or limiting damage to capillaries used to dispense microdrops measures the voltage produced by a piezoelectric transducer when the capillary contacts a solid surface or the phase shift occurring when the piezoelectric transducer is operated at its resonant frequency. After distinguishing the voltage created from such contact from the voltage produced from unrelated random sources, corrective action is taken, in one aspect by stopping the relative movement of the capillary and the surface being contacted. The method and apparatus may also be employed to determine the position of a solid or liquid surface.